

N36-136495 M/TH
Amendment dated 04/15/2004

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Reply to office action mailed 12/17/2003

REMARKS

Claims 1 and 3-22 are currently pending in the application. Claims 17-22 are withdrawn under traverse as being drawn to a non-elected species. By this amendment, claims 1, 7 and 8 are amended. The foregoing separate sheets marked as "Listing of Claims" shows all the claims in the application, with an indication of the current status of each .

In the specification, the paragraphs beginning at page 2, line 22 and page 6, line 14 been amended to correct typographical and translation errors.

The Examiner maintains the restriction requirement and has withdrawn claims 8, 15 and 16 as being drawn to non-elected species B. The election of species A with traverse is acknowledged. The applicant respectfully maintains traverse of the restriction requirement as to claims 8, 15 and 16. It will be observed that claims 7 and 8 are identical except that in claim 8 a layer from group 1 is adjacent to the transparent substrate and in claim 7 a layer from group 2 is adjacent to the transparent substrate. This distinction reflects the comment at page 4, lines 15-16 that

The dielectric thin film brought in contact with the surface of the substrate may be selected from the first or second group. (Emphasis supplied)

The Examiner has rejected claims 7 and 9-14 as indefinite under 35 U.S.C. §112, second paragraph. In particular, the Examiner has objected to the term "a transparent substrate" in claim 7. The claims have been amended to clarify that the term refers to the flat transparent substrate as shown as item 10 in Fig. 1. It is therefore submitted that the §112 rejection is thereby overcome.

The Examiner has rejected claims 1 and 3-6 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,400,179 to Ito. Both Ito and the present invention concern polarized light and use the standard terminology of the "S component" for polarization perpendicular to the plane of incidence and the "P component" for polarization parallel to the plane of incidence, with an angle of incidence and the light

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being further split into reflected and refracted (or transmitted) portions. And both Ito and the present invention improve upon prior art techniques relating to polarization dependence provided with alternating layers of high and low refractive index materials. However, each of their improvements address different problems and provide different solutions. Ito provides a beam splitter with the objective of having no phase difference between the S and P components and at the same time achieving S and P components which are nearly the same (or, in another and unclaimed embodiment, where P is very high and S is very low) over a wide range of wavelengths. Figures 3-11 (and 14-16 regarding the unclaimed embodiment) show graphs of S and P components by wavelength, demonstrating this attribute of the Ito invention. These graphs are of reflectance, but it is evident from Figs. 1 and 12 that Ito contemplates use of transmitted light as well.

By contrast, the present invention is concerned with achieving a polarizing filter that is able to compensate so as to obtain light with a desired ratio between S and P components by adjusting the incident angle. Figures 2-7 are graphs showing the variation of S and P components and the ratio between them by incident angle, where a polarizing filter in accordance with the invention is employed. This may be compared to Figures 8 and 9, where a glass plate is used without the polarizing filter. Note that in Figures 8 and 9 the controllability of the ratio occurs at high angles of incidence (relative to the result achieved with the invention's filter), where transmittance drops off dramatically (page 3, lines 9-13). Where Ito is concerned to provide relatively constant values of S and P components over a range of wavelengths, the present invention is implemented with respect to a particular wavelength (page 3, line 23) and has no interest in attributes maintained over a range of wavelengths. Where Ito is concerned with maintaining a "no phase difference" condition between the S and P components over a range of wavelengths (col. 2, lines 12-23), the present invention needs to say nothing about this attribute since variation of wavelength is not contemplated. Where the present invention is concerned with

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using the angle of incidence to achieve a desired ratio of S and P components (page 3, lines 18-19; Figs. 2-7) with respect to a particular polarizing filter, Ito is concerned with being able to change the angle of incidence as a matter of design flexibility, without having to redesign the optical multilayer film (col 2, lines 27-31). Ito provides no disclosure recognizing the significance of a ratio of transmitted or reflected S and P components, or showing how the angle of incidence could be used as a controlling parameter for determining that ratio. Therefore, Ito fails to anticipate the invention and cannot provide a basis for one skilled in the art to successfully develop the invention.

The Examiner points out that both Ito and the present invention provide a plurality of dielectric materials alternately arranged. This is clearly within the prior art practice of alternating layers having higher and lower refractive indices (page 1, line 18, to page 2, line 2). In the present invention, however, there is provided a third element very specifically defined by two additional limitations. The first is that the refractive index be higher than any in the lower group (group 1) and lower than any in the higher group (group 2). The second is that this layer is on the outermost layer of the laminate, so that the laminate is sandwiched between this third element and the substrate (as is clear from page 4, lines 8-16). By contrast, the third element in Ito a) is in the middle of the laminate and b) has a value of the refractive index above (rather than intermediate between) both the other groups (col. 3, lines 25-36). Furthermore, in Ito the laminate is sandwiched between an incoming side prism and an outgoing side prism (col. 3, lines 37-44).

While it is not clear precisely how this third element operates, it is clear from the earlier discussion above that Ito and present invention have different purposes and effects. There is no support on the record for the argument that Ito and the present invention have similar functionality. Indeed, the functionality is quite different, as shown above. Therefore, the differences in structure cannot be ignored and, in any

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event, support the earlier conclusion that Ito does not anticipate the present invention nor provide a basis for one skilled in the art to develop the present invention.

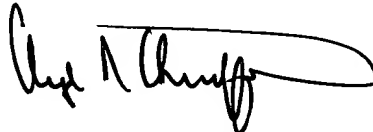
It is believed that the foregoing remarks apply as well to claims 7 and 9-14.

In view of the foregoing, it is requested that the application be reconsidered, that claims 1 and 3-16 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Clyde R Christofferson
Reg. No. 34,138

Whitham, Curtis & Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
703-787-9400
703-787-7557 (fax)

Customer No. 30743